**Calculator Overlap questions November 2019 Paper 3**

**22/1** (*a*)Expand and simplify (*x* + 5)(*x* – 9)

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**(2)**

(*b*)Factorise fully 9*x*2 + 6*x*

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**(2)**

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**23/2** (*a*)Use your calculator to work out 

Write down all the figures on your calculator display.

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**(2)**

(*b*)Write your answer to part (*a*)correct to 4 significant figures.

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**(1)**

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**26/5** Write 37 cm3 in mm3

.......................................................mm3

**(1)**

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**24/3** The scatter graph shows information about the marks a group of students got in a Science

 test and in a Maths test.



Jamie got a mark of 34 in the Science test.

Using the scatter graph, find an estimate for Jamie’s mark in the Maths test.

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**(2)**

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**25/4** The table gives information about the times taken, in seconds, by 18 students to run a race.

|  |  |
| --- | --- |
| **Time (*t* seconds)** | **Frequency** |
| 5 < *t* ≤ 10 | 1 |
| 10 < *t* ≤ 15 | 2 |
| 15 < *t* ≤ 20 | 7 |
| 20 < *t* ≤ 25 | 8 |

 Work out an estimate for the mean time.

 Give your answer correct to 3 significant figures.

....................................................... seconds

**(3)**

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**28/7** (*a*)Write 32 460 000 in standard form.

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**(1)**

 (*b*)Write 4.96 × 10−3 as an ordinary number.

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**(1)**

 Asma was asked to compare the following two numbers.

*A* = 6.212 × 108 and *B* = 4.73 × 109

 She says, **“6.212 is bigger than 4.73 so *A* is bigger than *B*.”**

 (*c*)Is Asma correct? You must give a reason for your answer.

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**(1)**

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**27/6** Nimer was driving to a hotel.

 He looked at his Sat Nav at 13 30

|  |  |
| --- | --- |
| Time | 13 30 |
| Distance to destination | 65 miles |

 Nimer arrived at the hotel at 14 48

 Work out the average speed of the car from 13 30 to 14 48

 You must show all your working.

.......................................................mph

**(4)**

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**29/8** The diagram shows a regular pentagon and

 a parallelogram.

 Work out the size of the angle marked x.

 You must show all your working.

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**(4)**

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**TOTAL FOR PAPER IS 24 MARKS**